UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,331	12/20/2001	Yasuo Koike	566.41012X00	2561

20457 7590 11/06/2003

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-9889

EXAMINER	
DUONG, THOI V	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,331	KOIKE ET AL.	
	Examiner	Art Unit	
	Thoi V Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-10 and 12-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,8-10 and 12-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2a* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. This office action is in response to the Amendment, Paper No. 8, filed August 26, 2002.

Accordingly, claims 1, 3-6, 8-10, 12 and 14 were amended, claims 2, 7 and 11 were cancelled, and new claims 18 and 19 were added. Currently, claims 1, 3-6, 8-10 and 12-19 are pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-6, 8-10 and 12-17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 12 recites the limitation "said rubbing cloth" in line 7 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 6, 8, 12, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazoe (JP 04-250423).

As shown in Fig. 1, Yamazoe discloses an apparatus for manufacturing a liquid-crystal display element (as well as a method of manufacturing the liquid crystal display element); the apparatus comprising:

a stage 1 for supporting a substrate member 3 to be treated;

a rubbing roller 4 for rubbing an alignment film (not shown) provided on the surface of the substrate member 3; and

a charge control member 8 (as a rod or foil type conductor) for controlling the surface potential of the rubbing roller 4 by contacting it with the surface of a rubbing cloth 6 provided on said rubbing roller surface which comes into contact with said alignment film (see Abstract),

wherein the potential of the rubbing cloth 6 is controlled by controlling the potential of said charge control member 8 with a means 9;

wherein the surface potential of said rubbing cloth 6 is made to have the same polarity as the surface potential of said substrate member 3 (see Fig. 1); and

wherein said charge control member (as a rod or foil type) consists of a material which causes a charge having a same polarity as the charge caused in said substrate member surface when the rubbing cloth comes into contact with the surface of the substrate member on which the alignment film is formed (see Fig. 1).

7. Claims 1, 3, 4, 12, 13 and 15 rejected under 35 U.S.C. 102(b) as being anticipated by Muto (JP 07-261179).

As shown in Fig. 1, Muto discloses an apparatus for manufacturing a liquid-crystal display element (as well as a method of manufacturing the liquid crystal display element); the apparatus comprising:

a stage 6 for supporting a substrate member 7 to be treated;

a rubbing roller 2 for rubbing an alignment film (not shown) provided on the surface of the substrate member 7; and

a charge control member 4 (as a rubber mat) for controlling the surface potential of the rubbing roller 4 by contacting it with the surface of a rubbing cloth 5 provided on said rubbing roller surface which comes into contact with said alignment film (see Abstract),

wherein the potential of the rubbing cloth 5 is controlled by controlling the potential of said charge control member 4; and

wherein said charge control member 4 consists of a material which causes a charge having a polarity opposed to the charge caused in the substrate member surface when the rubbing cloth comes into contact with the surface of the substrate member on which the alignment film is formed (see Abstract).

8. Claims 1, 3, 4, 6, 12, 13, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugawara et al. (JP 11-258609).

As shown in Figs. 1 and 2, Sugawara et al. discloses an apparatus for manufacturing a liquid-crystal display element (as well as a method of manufacturing the liquid crystal display element); the apparatus comprising:

a stage 6 for supporting a substrate member 10 to be treated;

a rubbing roller 2 for rubbing an alignment film (not shown) provided on the surface of the substrate member 7; and

a charge control member 13 for controlling the surface potential of the rubbing roller 4 by contacting it with the surface of a rubbing cloth 4 provided on said rubbing roller surface which comes into contact with said alignment film (see Abstract),

wherein the potential of the rubbing film is controlled by controlling the potential of said charge control member 13;

wherein the surface potential of said rubbing cloth is made to have the same polarity as the surface potential of said substrate member (Fig. 2); and

wherein said charge control member 13 is covered with a material capable of being contact-charged to a polarity different from the surface potential of said substrate member (paragraphs 9 and 12-14); and

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 5, 9, 10, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al. (JP 11-258609) as applied to claims 1, 3, 4, 6, 12, 13, 15 and 16 in view of Osaki et al. (JP 05-107543)

As shown in Figs. 1 and 2, Sugawara et al. also discloses a sensor 7 for measuring the surface potential of the substrate 10 and a controller for controlling the

potential of the charge control member 13 (paragraphs 12 and 13). Sugawara et al. discloses the apparatus that is basically the same as that recited in claims 5, 9, 10, 14 and 17 except for a second sensor for measuring the surface potential of the rubbing cloth 4. As shown in Fig. 1, Osaki et al. discloses an apparatus for manufacturing a liquid-crystal display element; the apparatus comprising:

a stage 5 for supporting a substrate member 4 to be treated;

a rubbing roller 1 for rubbing an alignment film (not shown) provided on the surface of the substrate member 4; and

a sensor 6 for measuring and monitoring the static electricity generated on a rubbing cloth 2 provided on said rubbing roller surface which comes into contact with said alignment film so as to enable exact setting of the pressing for rubbing (see Abstract).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Sugawara et al. with the teaching of Osaki et al. by employing a second probe to measure the surface potential of the rubbing cloth and feed back to the controller so as to set adequate output voltage for the charge control member to suppress the static electricity.

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al. (JP 11-258609) as applied to claims 1, 3, 4, 6, 12, 13, 15 and 16 in view of Afzali-Ardakani et al. (USPN 5,571,852).

Sugawara et al. discloses an apparatus for manufacturing a liquid-crystal display element that is basically the same as that recited in 18 except for the surface of the

charge control member made of a polyimide resin. However, Afzali-Ardakani et al. discloses that the use of polyimides is widely known since it has very high temperature resistance, low dielectric constant as well as good mechanical strength (col. 3, lines 10-30). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Sugawara et al. with the teaching of Afzali-Ardakani et al. by forming a polyimide resin at the surface of the charge control member so as to obtain a member having good physical properties for intended use.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazoe (JP 04-250423) as applied to claims 1, 3, 6, 8, 12, 15 and 16 in view of Afzali-Ardakani et al. (USPN 5,571,852).

Yamazoe discloses an apparatus for manufacturing a liquid-crystal display element that is basically the same as that recited in 18 except for the surface of the charge control member made of a polyimide resin. However, Afzali-Ardakani et al. discloses that the use of polyimides is widely known since it has very high temperature resistance, low dielectric constant as well as good mechanical strength (col. 3, lines 10-30). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Yamazoe with the teaching of Afzali-Ardakani et al. by forming a polyimide resin at the surface of the charge control member so as to obtain a member having good physical properties for intended use.

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al. (JP 11-258609) in view of Osaki et al. (JP 05-107543) as applied to

claims 5, 9, 10, 14 and 17 and further in view of Afzali-Ardakani et al. (USPN 5,571,852).

The apparatus of Sugawara et al. as modified in view of Osaki et al. above includes all that is recited in claim 19 except for the surface of the charge control member made of a polyimide resin. However, Afzali-Ardakani et al. discloses that the use of polyimides is widely known since it has very high temperature resistance, low dielectric constant as well as good mechanical strength (col. 3, lines 10-30). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the apparatus of Sugawara et al. with the teaching of Afzali-Ardakani et al. by forming a polyimide resin at the surface of the charge control member so as to obtain a member having good physical properties for intended use.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong

10/31/2003

Primary Examiner